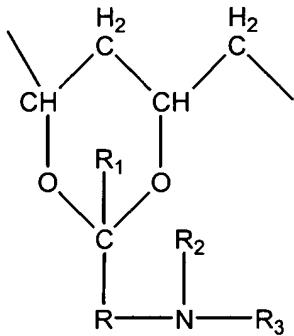


Clean Copy of Claims

1. A microparticle formed from macromers having a polymeric backbone comprising units having a 1,2-diol or 1,3-diol structure and at least two pendant chains bearing crosslinkable groups.

5. The microparticle of claim 1, wherein the backbone polymer comprises poly(vinyl alcohol) (PVA) and copolymers thereof.

6. The microparticle of claim 1, wherein the macromer has the formula:



in which R is a linear or branched C₁-C₈ alkylene or a linear or branched C₁-C₁₂ alkane; R₁ is hydrogen, a C₁-C₆ alkyl, or a cycloalkyl; R₂ is hydrogen or a C₁-C₆ alkyl; and R₃ is an olefinically unsaturated electron attracting copolymerizable radical having up to 25 carbon atoms.

8. The microparticle of claim 1, further comprising an active agent.

9. The microparticle of claim 8, wherein the microparticle releases the active agent over a period of time ranging from about 1 day to 6 months.

10. The microparticle of claim 1, wherein the microparticle is biodegradable.

11. The microparticle of claim 1, further comprising a contrast agent.

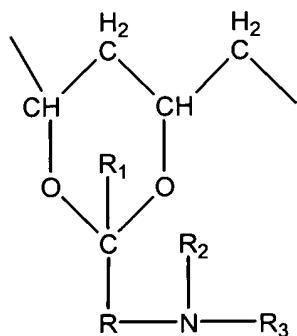
12. The microparticle of claim 1, wherein the crosslinkable groups are crosslinked via free radical polymerization.

13. The microparticle of claim 11, wherein the free radical polymerization is redox initiated.

39. A hydrogel biomedical article formed from macromers having a polymeric backbone comprising units having a 1,2-diol or 1,3-diol structure and at least two pendant chains bearing crosslinkable groups, wherein the crosslinkable groups are crosslinked via redox initiated free radical polymerization.

40. The hydrogel biomedical article of claim 39, wherein the backbone polymer comprises poly(vinyl alcohol) (PVA) and copolymers thereof.

41. The hydrogel biomedical article of claim 39, wherein the macromer has the formula:



in which R is a linear or branched C₁-C₈ alkylene or a linear or branched C₁-C₁₂ alkane; R₁ is hydrogen, a C₁-C₆ alkyl, or a cycloalkyl; R₂ is hydrogen or a C₁-C₆ alkyl; and R₃ is an olefinically unsaturated electron attracting copolymerizable radical having up to 25 carbon atoms.

42. The hydrogel biomedical article of claim 39, further comprising an active agent.

43. The hydrogel biomedical article of claim 42, wherein the hydrogel releases the active agent over a period of time ranging from about 1 day to 6 months.

44. The hydrogel biomedical article of claim 39, wherein the hydrogel is biodegradable.

45. The hydrogel biomedical article of claim 39, further comprising a contrast agent.

46. The hydrogel biomedical article of claim 39, wherein the article is selected from the group consisting of a catheter, tubing, vascular graft, heart valve, suture, prosthesis, dialysis membrane, filter, sensor, wound dressing, and drug delivery article.

47. The hydrogel biomedical article of claim 39, wherein the article is a microsphere.

48. The hydrogel biomedical article of claim 39, wherein the hydrogel is a coating.

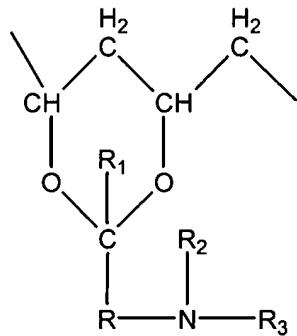
49. The hydrogel biomedical article of claim 39, wherein the article is formed in a mold.

50. The hydrogel biomedical article of claim 39, wherein the article is formed on a substrate.

51. A hydrogel biomedical article formed from macromers having a polymeric backbone comprising units having a 1,2-diol or 1,3-diol structure and at least two pendant chains bearing crosslinkable groups, wherein the article is biodegradable.

52. The hydrogel biomedical article of claim 51, wherein the backbone polymer comprises poly(vinyl alcohol) (PVA) and copolymers thereof.

53. The hydrogel biomedical article of claim 51, wherein the macromer has the formula:



in which R is a linear or branched C₁-C₈ alkylene or a linear or branched C₁-C₁₂ alkane; R₁ is hydrogen, a C₁-C₆ alkyl, or a cycloalkyl; R₂ is hydrogen or a C₁-C₆ alkyl; and R₃ is an olefinically unsaturated electron attracting copolymerizable radical having up to 25 carbon atoms.

54. The hydrogel biomedical article of claim 51, further comprising an active agent.

55. The hydrogel biomedical article of claim 51, wherein the particle releases the active agent over a period of time ranging from about 1 day to 6 months.

56. The hydrogel biomedical article of claim 51, further comprising a contrast agent.

57. The hydrogel biomedical article of claim 51, wherein the article is selected from the group consisting of a catheter, tubing, vascular graft, heart valve, suture, prosthesis, dialysis membrane, filter, sensor, wound dressing, and drug delivery article.

58. The hydrogel biomedical article of claim 51, wherein the article is a microsphere.

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59. The hydrogel biomedical article of claim 51, wherein the hydrogel is a coating.
60. The hydrogel biomedical article of claim 51, wherein the article is formed in a mold.
61. The hydrogel biomedical article of claim 51, wherein the article is formed on a substrate.